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Forest-legislation in Pennsylvania.

NOT long ago we stated that there were some encouraging evidences of an advance in public sentiment in regard to the value of our forests, and one of these evidences was the action of the last Legislature of Pennsylvania in passing the "act relative to a forestry commission," which provides for the appointment of a competent engineer and a botanist practically acquainted with the forest-trees of the commonwealth, whose duty it shall be to examine and report upon the condition of the slopes and summits of the important water-sheds of the state; to ascertain how much and what kind of timber remains standing; to indicate where these various kinds of timber are naturally reproducing themselves, and to report what measures are being taken to secure a supply of lumber for the future. The commission is also to ascertain the extent, character and location of the wild lands now belonging to the commonwealth, with a statement of what portions of such lands will be suitable for a forest-reserve; and if the lands belonging to the commonwealth are insufficient for that purpose, to ascertain what other suitable lands there may be within the state.

The bill contemplates a report by the commissioners which shall outline a general forest-policy for the state, and it differs in this from the action of the state of New York, which has been directed mainly to the preservation of the Adirondack forests, and is broader in its provisions than the New Hampshire law. When it is remembered that four years ago a bill which involved no expense to the state was never reported on by the committee to which it was referred, and that the present one was passed almost unanimously, and that the Governor signed it at once, it will be seen that there has been a marked change in the public sentiment. Of course, it does not follow that the commission will be able to frame a bill which will meet all the necessities of the case, or that another Legislature would be wise enough to pass such a bill even if it were framed. But since the general enlightenment of the people on this matter is the fundamental condition of success, this action in Pennsylvania should give some encouragement to all persons who are devoting thought and labor to this matter.

Colonel Tyson and Professor Rothrock, who have been named by the Governor as Commissioners, will set out on a tour of the state at once, and we have no doubt that they will make as thorough a survey as the time allowed them will permit and that they will secure as full an expression of opinion from the people of the state as possible on such subjects—for example, as to the means of suppressing fires. Patient labor on this line cannot fail to be productive of lasting good to the commonwealth. Pennsylvania, owing to its size, its situation and its varied surface, ought to rank among the very first of the lumber-producing states on the Atlantic slope of the continent, and yet its forests have been so rapidly diminishing that at the present rate of destruction the time will soon come when they will not suffice to meet the home demand for lumber. Black walnut, black cherry and the best hickory are already scarce. In sections where the charcoal-furnaces of an earlier time have devoured the primitive woods a condition of things similar to that which prevails in parts of New Hampshire and Vermont has arrived, and extensive areas are about ready for desertion because the trees are gone, the lands contain no minerals and are too poor for profitable agriculture—that is, they are unproductive, and so far a loss to the commonwealth.

The bill was judiciously framed in that it is not limited in its action to any particular part of the state, but contemplates a universal forest-policy. We learn that some members of the Pennsylvania Forestry Association who have been very active in securing this bill, have had in mind the establishment of a forest experiment station on a modest scale, for the purpose of illustrating to small landholders in the state the cheapest and best treatment of their woodlands, so that they may have, at least, a promise of profit from them. No doubt that such a station, properly managed, could be made of great educational value. But all this would require time and thoughtful direction by capable and experienced men. The forest-problems before us are not to be solved off-hand. We must still expect delays, disappointments and mistakes; but these only furnish an additional reason why we should welcome with grateful recognition any step in the right direction, and why every one in Pennsylvania who appreciates the value of the forests of the state and their relation to the property of the state, should give sympathy and support to the commission and help its work in every possible way.

THE Nurserymen's Convention, held at Chicago a fortnight ago, passed a resolution requesting the administration of the World's Fair to repeal the rules which interfered with the exhibition of fruits, and to enact such regulations as would enable exhibitors to place perishable fruits upon their table immediately upon their arrival by the various express lines. The grievance here complained of arose from a law which prohibited express wagons from bringing any exhibits into the grounds until after the Exposition was closed in the evening, and since the lights were turned down at that hour and exhibitors found it difficult to work both night and day the rule worked many hardships. Perishable products are unfit for exhibition after they have lain a day in a Chicago warehouse, and a large collection of fresh vegetables from New York was entirely lost through delay of this sort, while the same fate befell small fruits from Illinois.

We learn that this hardship no longer exists, but there are other reforms needed before the exhibits in the horticultural department can be studied with satisfaction. One who wishes to examine these various displays critically is often disappointed when he finds the name of the exhibitor wanting, and equally disappointed when he finds that the plants and other exhibits are not properly labeled. Few of them, in fact, are labeled so that persons unfamiliar with the plants can ascertain what they are, and much

of the educational value of the Fair is thus lost. In most of the horticultural displays there is no official record of the varieties on exhibition, and unless the exhibitor chances to have made a list for his own convenience the student will be obliged to decipher a small wooden or paper tag on each plant or fruit to find out what the collection comprises. The official catalogue of the horticultural department, too, is complained of as inaccurate, incomplete and insufficient. It is to be hoped that shortcomings in this direction will be corrected as far as possible. Experts in various branches of horticulture need no assistance in determining varieties, and yet the information which can be given in good descriptive lists is worth much to them. To the ordinary visitor, however, especially to one who is just beginning to take an interest in plants, fruits and flowers, the lack of full and accurate catalogues and distinct labels is most discouraging.

Mastic.

MASTIC, as is well known, is the gum which exudes from the stem of a small tree of the family to which our Sumachs belong—Pistacia Lentiscus. The island of Scio has for centuries produced nearly the whole of the mastic of commerce, and from a manuscript report prepared by the United States Consul at Smyrna, which has been communicated to us, we gather the following information in regard to the cultivation of the tree and its product:

The temperature of the island of Scio varies from the minimum of thirty-two degrees to a maximum of ninety degrees, the average being seventy degrees, Fahrenheit, with an average rainfall of about twenty-six inches. The thermometer rarely falls below thirty-two degrees, Fahrenheit, and frost is almost unknown, rarely occurring more than once in every forty or fifty years. The trees are only successful and productive when they are planted on high land, the sides of hills, etc., and the plantations have proved profitable in twenty-one of the sixty-six villages where they have been made. They thrive in soil naturally rich, experiments with different fertilizers having failed to produce much result, although barnyard manure is still extensively used in some parts of the island.

The trees are propagated in the following manner: Branches three or four feet long, and well supplied with buds, are broken from old trees, and are planted in carefully prepared soil nearly to the depth of their full length, and then banked up in the same way that Celery-plants are banked; the soil is occasionally watered during the first month until a sufficient number of roots have been developed to support the young plant, which is allowed to grow where the branch was put in the ground, transplanting being considered impossible. The planting is usually done between the 15th of November and Christmas. The branches are set ten to twelve feet apart, and, once rooted, grow rapidly, and soon attain in good soil a height of twelve to fourteen feet. In poor soil they are stunted, rarely growing more than six feet high, and are not productive. The largest yield of the best quality of gum is obtained from trees grown on hill-sides with southern and eastern exposures.

The crop is gathered between the end of May and the end of September, the flow of gum being obtained by means of several incisions made at intervals during the season in the bark of the main trunk and branches; these are made lengthwise with small sharp knives, care being taken not to penetrate beneath the bark.

The gum exudes and trickles down to the ground previously prepared about the tree by cleaning and beating with heavy mallets and by covering it with a coat of chalky earth, spread to furnish a hard surface for the gum to fall on. That part of the gum that remains attached to the bark is removed by hand. When rain falls at the time the gum is flowing much of it is ruined from the primitive method adopted in collecting the crop. From time to time during the season the gum is swept up from the bed of chalk, and, after being thoroughly washed, is picked over by hand to free it from any foreign substance; it is then sorted into different qualities and is ready for sale. The trees continue to be productive until they are twenty or thirty years old, according to the care they receive and the character of the soil in which they grow. The annual yield of a tree varies from one and a half to seven and a half pounds, according to its size and age, the average being between five and six pounds.

The aggregate yield of gum from the island amounts to 5,400 cubic hundredweight, produced by 115,000 to 130,000 trees, although the amount of the crop depends much upon the heat of the summer. The average cost of production is from fourteen to twenty cents a pound, and the average market value at the plantation twenty-eight to forty cents per pound, according to quality.

According to the *Pharmacographia* of Flückiger & Hanbury, mastic is not now believed to possess any important therapeutic virtues, and as a medicine is scarcely used, and in the making of varnish, for which it was once much employed, less costly resins are now usually substituted. The best quality is sent to Turkey and to Trieste, Vienna and Marseilles, and in small quantities to England. The inferior quality is manufactured in the east into rakí and other cordials.

Botanical Notes from Texas.—VIII.

CATALPA BIGNONIOIDES and C. speciosa are largely planted throughout the same range as Ailantus. While they are handsome and healthful ornamental trees, yet it is evident that neither of the Catalpas is well adapted to the wants of forestry. Their trunks are too soon lost in the large coarse branches, as is usual in broad-leaved trees. The differences in their characters are very slight. It might even be suggested that a point in science was strained in the elevation of C. speciosa to specific rank.

Opuntia Engelmanni is probably the commonest Cactus in Texas. It sometimes covers several square rods of ground, and it attains a height of three to five feet. The plant itself is generally known by its Mexican name, Nopal. Its fruit is tuna. A clergyman who had traveled in Mexico informed me that a cider was often made there of the expressed juice of Tunas, which he said was pleasant to the taste. In years of drought the expanded branches, leaves as they are generally called, form an important forage for stock. Deer and antelopes by a stroke of the foot break off the cruel spines from the branches, which they eat. Ranchmen burn off the spines. O. leptocaulis, a slender shrubby species, is also very abundant. It sometimes rises to a height of six to eight feet when it finds rocks, bushes or fences to lean upon. It bears small pale yellow flowers. The red juicy fruit is small, too. The species may be easily known by the long white spines. A few years ago the farmers of southern Kansas were deceived into buying thousands of cuttings of this plant, which were planted out for hedges. The result was as unsatisfactory as in the case of the farmers of western New York, who a few years earlier invested largely in cuttings of White Willow for the same purpose.

Eastern Apios tuberosa is also here, and as far south as Victoria. If we had nothing better to eat than the small tubers which it bears we might subsist upon them. The plant is a smooth handsome climber, and well worthy of cultivation for its beauty and the strong and pleasant perfume of its dark purple flowers. Passiflora incarnata, the handsomest of our native Passion-flowers, is too common to be duly appreciated, and it is seldom seen in gardens. It abounds almost everywhere, along railroads and in vacant grounds. Its large yellow fruit, maypaps, is pleasantly acid and edible.

Juglans rupestris, well characterized by its little fruit, begins to appear along the Colorado River. Near its eastern limit it is a mere shrub or a very small tree. Larger individuals grow along the Rio Grande. It is said to become a large tree in Mexico, extending westward to California. On low bushes near the Nueces River I found the small nuts in great abundance, and not larger than Concord grapes.

Helianthus argophyllus is a most remarkable Sunflower; its large leaves, resembling in form those of our common species, are silver, whitened by a soft, silky tomentum. I saw the species at Halletsville and near Goliad. H. Maximilianus appears to be the most abundant Sunflower of central Texas. So far as known, the first-named species appears to be exclusively Texan.

Leucophyllum Texanum, Cinisa of Mexicans, common in western Texas, I did not see near Austin, but I was told by apparently good authority that it was there among the hills. Its farthest eastern station, as I have observed, was on the low shelly bluffs of Nueces Bay, near Corpus Christi. That station is a little west of the ninety-seventh meridian. No native Texan shrub is more worthy of the general cultivation which it receives far eastward of its native range. The generic name of this plant, as well as the Mexican one, alludes to the whitened appearance of its leaves, produced by the dense hoary pubescence which covers them. This species attains a height of four to ten feet. Its handsome flowers are light purple in color. Farther westward Texas has another Leucophyllum, smaller and with whiter leaves.

Kansas City, Kansas. *E. N. Plank.*

Wild Flowers in Market.

FROM March until Asters disappear wild flowers may be found in the Harrisburg markets, but this year in such quantity and variety as to deserve passing mention. The wet weather of April and May was almost prohibitory of country expeditions, but buying one's wild flowers is not an unmixed pleasure, as gathering them is, for they look so unhappy in the tight little bunches, tied with bands of thick gingham. However, one sometimes finds branches and sprays of the flowering shrubs, but the tight bunches have an advantage in transit over our not very good roads.

There is one group of market-stalls where very many of our wild flowers can be found throughout the season, but during the latter part of May each stall has an individuality, owing to the different localities from which its products come, and all are then specially interesting. Most of the Ferns and more delicate flowers are brought from Fishing Creek Valley, and one family there has made quite an art of the successful transportation of Ferns. In hundreds of plants of Maidenhair Ferns one rarely finds a broken stem, and the stall-woman always shows new customers the "nice dirt" about the roots, and warns them not to disturb it. This stall is always bowery and delightful as Anemone and Hepatica, Amelanchier and Columbine, Red-bud and Dogwood, Wild Crab-apple and Azalea succeed each other. The 1st of June it was a study in soft tones against a deep border of Maidenhair, bunches of Smilacina racemosa and S. trifolia, and platters of Bluets. The next week the Bluets had disappeared, but their place was filled by masses of Mountain Laurel, Golden Aster, Asclepias quadrifolia and Gillenia trifoliata. Milkweed has an uncertain place in rural minds, for on two occasions when inquiring from different people whether Asclepias quadrifolia was not Milkweed, I have received the same reply, "That's not Milkweed; that's a wild flower."

Another Fishing Creek stall is presided over by a scornful soul, who dealt out blossoming plants of Cypripedium acaule and C. pubescens for a penny a plant to weak-minded townspeople who liked such trash. "No, she didn't know if they had a name; may be they hadn't one. A neighbor woman called them Indian Tulips, but, for her part, she never bothered to look at such things. She just sold them for the children who brought them in from the woods, and once her garden got growing wouldn't bother with such truck."

Across the aisle a stand was pink and blue with Azaleas and Lupines from the country back of town—country that looks monotonously flat when seen from a height, but really is rolling, and filled with beautiful little streams and dells with all manner of lovely things growing in them. Another stall is gorgeous through May with Castilleia from a York County meadow. Inquiry, so far, has failed to discover any place else near by where the plant grows, so the meadow is gaining quite a reputation. My York County friend confided to me one morning that "three doctors from town had walked over the hills to see the meadow, and they certainly were pleased with the sight, and they gave the flower the same name that I did." This tribute touched me deeply, for a town-man ranks infinitely higher than a town-woman when it comes to expressing an opinion, but in her heart I know she classed us all as harmless lunatics.

The only floral path to a true country-woman's heart is lined with Cacti and paved with flowers that "look like wax." The more hideous and prickly the Cactus the deeper it appeals. Beauty of form and coloring, fragrance—all these are as naught compared with that embodiment of grace and charm, Old-man Cactus.

Harrisburg, Pa. *M. L. Dock.*

Notes on the Forest Flora of Japan.—XVI.

ALTHOUGH we have learned to look upon Japan as the home of the Persimmon, which is intimately associated with the expression of modern Japanese art, it is doubtful if either of the species of Diospyros commonly encountered in that country is really indigenous in the empire, where they were both probably introduced, with many other cultivated plants, from China. The more common and important of the two species is, of course, the Kaki, Diospyros Kaki, which is planted everywhere in the neighborhood of houses, which in the interior of the main island are often embowered in small groves of this handsome tree. In shape it resembles a well-grown Apple-tree, with a straight trunk, spreading branches which droop toward the extremities and form a compact round head. Trees thirty or forty feet high are often seen; and in the autumn, when they are covered with fruit and the leaves have turned to the color of old Spanish red leather, they are exceedingly handsome. Perhaps there is no tree, except the Orange, which, as a fruit-tree, is as beautiful as the Kaki. In central and northern Japan the variety which produces large, orange-colored, ovate, thick-skinned fruit is the only one planted, and the cultivation of the red-fruited varieties with which we have become acquainted in this country is confined to the south. A hundred varieties of Kaki at least are now recognized and named by Japanese gardeners, but few of them are important commercially in any part of the country which we visited, and, except in Kyōto, where red kakis appeared, the only form I saw exposed for sale was the orange-colored variety, which, fresh and dried, is consumed in immense quantities by the Japanese, who eat it, as they do all their fruits, before it is ripe and while it has the texture and consistency of a paving-stone.

Diospyros Kaki is hardy in Pekin, with a climate similar to that of New England, and fully as trying to plant-life; it fruits in southern Yezo and decorates every garden in the elevated provinces of central Japan, where the winter climate is intensely cold. There appears, therefore, to be no reason why it should not flourish in New England if plants of a northern race can be obtained; and, so far as climate is concerned, the tree, which, in the central mountain districts of Hondo, covers itself with fruit year after year, will certainly succeed in all our Alleghany region from Pennsylvania southward. In this country we have considered the Kaki a tender plant unable to survive outside the region where the Orange flourishes. This is true of the southern varieties which have been brought to this country and which may have originated in a milder climate than southern Japan, for the Kaki is a plant of wide distribution, either natural or through cultivation, in southeastern Asia. But the northern Kaki, the tree of Pekin and the gardens of central Japan, has probably not yet been tried in this country. If it succeeds in the northern and middle states it will give us a handsome new fruit of good quality, easily and cheaply raised, of first-rate shipping quality when fresh and valuable when dried, and an ornamental tree of extraordinary interest and beauty.

Diospyros Lotus, which is probably a north China species, and which is naturalized or indigenous in northwestern India and naturalized in the countries bordering the Mediterranean, is occasionally cultivated in northern Japan, where, however, as it does not appear to be more hardy than the Kaki, it does not seem to be much esteemed. The fruit is small and of an inferior quality. Diospyros Lotus may be expected to endure the climate of our northern states.

In Japan, Styraceæ is represented by Symplocos with half a dozen species, all shrubs rather than trees, by Pterostyrax, which replaces our Halesia, from which the Japanese genus only differs in its terminal paniculate inflorescence, five-parted flowers, and small fruit; and by Styrax with two species. Neither of the two species of Pterostyrax equals in size our Halesia tetraptera, which, under favorable conditions, becomes a tree eighty to a hundred feet high on the southern Alleghany mountains, and neither of them approaches our arborescent Halesias in the beauty of their flowers, which, although produced in ample clusters, are individually small. Pterostyrax corymbosum, which I believe to be almost exclusively a southern species, I only saw in the Botanic Garden in Tōkyō, where there is a bushy plant eighteen or twenty feet in height. Pterostyrax hispidum, which is now beginning to be known in our gardens, where it is hardy from Boston to Philadelphia, is a bushy tree or shrub which we only saw wild in Japan on the banks of a stream among the mountains above Fukushima, on the Nagasendo, where we found a single plant twenty or twenty-five feet in height.

As an ornamental plant the most valuable of this family, as represented in Japan, is certainly Styrax Obassia, a tree which grows as far north as Sapporo, in Yezo, and which

may therefore be expected to be as hardy as Cercidiphyllum, Syringa Japonica, Magnolia Kobus or any of the other Yezo trees, with which it grows and which flourish here in New England. Styrax Obassia, as it appears in Yezo and on the mountains of central Hondo, where it is common between 3,500 and 4,000 feet above the sea, is a tree twenty to thirty feet in height, with a slender straight stem, long and graceful branches well clothed with nearly circular leaves dark green on the upper surface, pale on the lower, and often more than six inches across. The white, bell-shaped flowers, nearly an inch in length, borne in long drooping racemes, are produced in the greatest profusion and are very beautful. The second species, Styrax Japonica, is a common plant in the mountain-forests of Hondo and in southern Yezo, and is a shrub or occasionally a small tree twenty to thirty feet high. It is now well known in American and European gardens.

From the Olive family we miss, in Japan, Forestiera, an exclusively American genus, and Chionanthus, which is eastern American and Chinese. Fraxinus and Osmanthus are common to the floras of Japan and eastern America, and in Japan, Ligustrum and Syringa, both Old World genera, are represented. In eastern America, Fraxinus appears in nine or ten species; in Japan there are probably not more than two indigenous species, and only Fraxinus longicuspis is endemic. This is a tree of the Ornus section, which is rather common in the elevated Hemlock-forests of Hondo, and ranges northward into Yezo. It is a slender tree twenty to thirty feet in height, with thin, rigid, ashy gray branchlets, black buds, and leaves with five-stalked, ovate acute, finely or coarsely serrate leaflets, which in the autumn are conspicuous from the deep purple color to which they change. I do not feel at all sure that this species, of which we were unable to obtain seeds, is in cultivation, although the name is common in catalogues, as there is still great confusion with regard to the Asiatic Ashes found in gardens.

Fraxinus Manchurica, which is also common in Manchuria, Saghalin and Corea, is a noble tree in Yezo, where it is exceedingly abundant in low ground near the borders of swamps and streams, and where it often rises to the height of a hundred feet and forms tall straight stems three or four feet in diameter; its stout orange-colored branchlets, large black buds, ample leaves, with lanceolate acute, coarsely serrate leaflets, and great clusters of broad-winged fruit, well distinguish this species, which is certainly one of the noblest of all the Ashes and one of the most valuable timber-trees of eastern Asia. For many years Fraxinus Manchurica has inhabited the Arnold Arboretum, where it is hardy and where it promises to grow to a good size. Another Ash-tree commonly cultivated along the borders of Rice-fields near Tōkyō is referred by the Japanese botanists to the Fraxinus pubinervis of Blume. This has every appearance of being an introduced tree in Japan; but I was unable to obtain fruit or any satisfactory information with regard to it.

Syringa Japonica is rather common in the deciduous forests on the hills of central Yezo, and I saw it occasionally on the high mountains of Hondo. In its native country, the Japanese Lilac, when fully grown, is an unshapely straggling tree, twenty-five to thirty feet in height, with a trunk rarely twelve or eighteen inches in diameter, and does not display the beauty of foliage or the compact handsome habit which we associate with this plant in our New England gardens, where it is far more beautiful than in its native forests.

Osmanthus Aquifolium, or, as it is more commonly called in gardens, Osmanthus ilicifolium, is usually supposed to be a Japanese tree. I saw it in city gardens, and in greater perfection in the mountain-region of central Hondo, where it is often planted near dwellings and by the road-side, and where it sometimes grows to the height of thirty feet and makes a trunk a foot or more in diameter and a broad, compact round head, loaded in October with fragrant flowers. But where I saw it, it had evidently been planted, and if it is a Japanese species, which is doubtful, it is only indigenous in the extreme south.

Ligustrum is poorly represented in Japan, and of the three species found within the borders of the empire only the evergreen Ligustrum Japonicum of the south becomes a tree. Of the other species, Ligustrum medium is much more common than Ligustrum Ibota; at the north it is found in moist low forests, but farther south ascends to high elevations, where, in central Japan, Ligustrum Ibota is also found.

In the remaining Gamopetalous orders, of trees Japan possesses only Ehretia acuminata, which inhabits the Luchu Islands, and possibly reaches the southern shores of Kyushu, a small tree, which I saw only in the Botanic Garden of Tōkyō, and the beautiful Clerodendron trichotomum, which in late summer enlivens the banks of streams with its great masses of tropical foliage and brilliant flowers, and in Yezo often attains to the size and habit of a small tree.

C. S. S.

New or Little-known Plants.

Ostrowskia magnifica.

OSTROWSKIA MAGNIFICA can now hardly be called a rare plant, although it is not common here in cultivation. For various reasons it does not yet seem to have been widely disseminated, though no hardy plant introduced in recent years has excited more interest and raised higher expectations among gardeners. The first offering of seeds of this plant failed to germinate, and it is only lately that good strong roots have been generally available, so that few have had the opportunity to flower the plants. The Dutch bulb-growers now offer strong roots, and stock may be obtained of them at a moderate price.

As will be seen by the illustration (page 276), this is a most remarkable campanulate flower, being nearly five inches in diameter, with a depth of nearly four inches. The color of the flower illustrated was a very light lavender or mauve, almost white, with deeper veinings. The surface of the corolla is somewhat irregular, and reflects numerous high lights in a way that adds to its attractiveness. Altogether it is a remarkably graceful and handsome flower. It has been compared to a magnified Platycodon, but that well-known flower is very commonplace in comparison. The leaves are light green, thin in texture, like those of Lettuce, and are borne in whorls on stems about three feet high. The juice is milky.

Herr Max Leichtlin, in Garden and Forest, vol. i., p. 406, states that this plant was flowered at Baden-Baden in 1887, where it is as hardy as a weed. It prefers a sandy, deeply worked soil, as it has thick brittle roots some two feet long. It was first discovered by Dr. A. Regel in eastern Bokhara, and described in 1884. My plant has passed two winters safely, and has not appeared above ground until all dangers from spring frosts are over. It is four years old, now flowering for the first time. As it dies down to the roots soon after flowering, it should have a position where it is not likely to be disturbed by careless digging, for though it is propagated by division of the roots, it is not a plant which should be disturbed. My plant is in a position where it receives little moisture in late summer, but I do not know that this precaution is necessary.

Elizabeth, N. J. *J. N. Gerard.*

New Plants from Asia Minor.

WE quote below extracts from an interesting letter to the London *Garden*, by Mr. Edward Whittall, to whom lovers of flowers, and especially of spring flowers, are so much indebted for many introductions of hardy plants. The extracts give a summary of the results of his work in collecting last year, with a promise of future labors in the same direction, which we hope may be as successful as his former ones:

Among forms of Anemone blanda a fine all blue one from the mountains overlooking the Straits of Samos was a pleasant

surprise. I have no doubt its value will be established. The large form of which I spoke in 1891 as coming from the environs of Pergamos has in every way proved its superiority to that coming from the more southern regions. One of your correspondents, in describing the various kinds of Chionodoxa, says that C. Tmolusi, like the not-to-be-found C. Forbesi, is a stronger and larger form of C. Luciliæ. Judging by his erroneous description, he cannot possess this variety at all, as it is dwarf, both in bulb and foliage, more brilliantly colored, and freer-flowering, but not giving larger blooms than C. Luciliæ. C. Alleni was found by one of my men while hunting for new Snowdrops for my friend Mr. Allen, and I therefore named it Alleni in his honor. I would call it a very large C. gigantea, the foliage and flowers being much more massive than in the latter variety. I measured some of the blooms and found them in many cases fully two inches across. Their great beauty lies not only in their size, but also in the fact that generally more than three flowers grow on one stem. I have counted as many as ten. The color is as pretty as that of C. gigantea, but the variations are greater. The white, pink and bluish white forms are especially beautiful. As Mr. J. Wood very justly remarks, the bulbs sent to England are all collected in an unripe state, and therefore take more than one year's cultivation to recover their normal strength. The bulbs of C. Alleni are smaller and not reddish, as those of C. gigantea. Another find was a variety of C. Sardensis, with a smoke-colored eye. This looks like a cross between Scilla bifolia and Chionodoxa Sardensis, the flower-scape and the very numerous blooms on it making me think at first it was a fine variety of Scilla bifolia, but on closer examination I perceived my mistake.

Your correspondent infers that C. Luciliæ is the typical Chionodoxa here, and that all the rest are varieties. My opinion, judging from the position in which the various kinds grow, is that all are variations of C. Sardensis. This form is to be found on every mountain-range lying between Sardis and Pergamos; whereas the rest are disposed round the limits of its abode, on only single ranges, or, as in the case of C. gigantea, on one lofty elevation alone.

In Fritillarias I am getting more puzzled daily. The number of varieties and the many variations in those varieties are surprising. In F. Armena, the yellow, red and green forms I have already spoken of, but last year one of my men brought down from one of the northern spurs of the Taurus a variety with a larger bell-shaped flower, which deserves a distinct name. It often has two flowers on each stem. The color is a rich purple-brown on the outside and old gold on the inside of the petals. F. aurea varies from pure bright to dark yellow, spotted brown. F. acmopetalis does not show variations in color, but in size. Another variety from the Taurus above the town of Adalia resembles F. Meleagris, and may possibly prove to be F. latifolia. The variations in this variety are numerous. Some plants rise to the height of eighteen inches, with a large pendent flower, superior in size to any of the Meleagris type I have grown. Others are dwarf, rarely reaching six inches, with proportionately small flowers. The color in all is chequered lilac and white. A specialist in this genus would, I am sure, find some interest in the many specimens I could send him.

The variations in Snowdrops I expect will prove interesting to Mr. Allen, who has kindly undertaken to cultivate and prove all I send him. When I first laid my observations before your readers, I thought that Galanthus Elwesi, sometimes lanky, sometimes rounded, and sometimes short, but Elwesi still, would be the only variety found in our neighborhood. Since then, however, from the island of Nicaria comes a form with green glossy leaves; from the Taurus above the town of Cesarea one with long, thin, whitish leaves and tiny bulbs, and from the Davros Dagh one with broad, but short leaves, and with a globular, but small flower.

In Scillas, the one kindly named Whittalli by Mr. Baker, of Kew, was found near the town of Elmali, where S. Taurica is said to grow, and for which, by the bye, I have searched in vain for the last three years. The white eye and stamens of S. Whittalli and the large blooms make it an interesting variety of S. bifolia. Another form of this type from the Sultan Dagh may worthily be distinguished by the additional title of Robusta on account of its large flower-scape and massive foliage.

I hope the season just commencing will be richer in new finds than any of the past, as I have to a great extent perfected my system of collecting, and my men, besides, will cover more ground and will be aided by their greater experience. I have added to my old hobbies Irises and such alpine plants as are to be found, and the dried specimens sent to Kew will soon testify to the activity of my collectors.

Cultural Department.

Chrysanthemums.

ROOTED cuttings of Chrysanthemums intended to produce specimen flowers are now being potted into thumb-pots. We expect to plant them on the greenhouse-benches during the first week in July. Here they will bloom in November. We use about six inches of good rich, and rather heavy, loam from pasture-land, and plant firmly, eight inches apart each way. The stakes are put in at the same time, and secured in position by wires, an operation more easily performed when the plants are small. The house should be slightly shaded until the 1st of September, and abundance of air given at all times.

For green and black aphis and thrips use a decoction of one pound of tobacco-leaf and one pound of whale-oil soap, dissolved and diluted in twenty gallons of water. Occasionally I add a fungicide in the form of sulphide of potassium. This is put on with a fine sprayer, and is very effective. The chinch-bug, however, is our worst enemy. By means of a proboscis it extracts the sap or juices from the tips of the leaders. The effect of this is at first seen by the wilting of the plant, and afterward by abortive buds or "blinding." If this does not happen later than the 1st of September a secondary shoot may develop, but this is not expected to make so fine a bloom as the leader. Since they live by extracting the juices of the plants, there is no remedy which can be applied to the surface of the leaves; no poison they can be expected to eat, and, consequently, it is hard to fight them with the regular insecticides. I noticed last year they were sensitive to disagreeable odors. Part of a batch sprayed with a fœtid compound of whale-oil soap, sulphide of potassium and extract of tobacco was left comparatively untouched. The green, wingless, immature insect is more voracious than the mature insect.

Wellesley, Mass. *T. D. H.*

Plants for Conservatories in Summer.

VARIOUS gesneraceous plants are useful in brightening the conservatory or greenhouse during the summer months. Many plants of this class are profuse in blooming and brilliant in color, besides being quite easy to cultivate.

There is, however, one point in the cultivation of such species as the Gesneras, Gloxinias, Tydias, Achimenes, Eucodonias and others of like character, that is not sufficiently observed, and that is to give them an abundance of manure in the compost. The quality of both foliage and flowers is wonderfully improved by liberal treatment in this respect. A rather sandy loam, in which from one-third to one-half of short, well-rotted manure is mixed, will usually give more satisfaction to plants of this class than some of the more elaborate composts frequently recommended for the purpose, always providing that proper attention is paid to watering. Attention to shading is also necessary, the foliage of these plants being quite susceptible to strong sunshine; this is especially so if any water is allowed to remain on the leaves, when disfigurement soon follows.

The many improved forms of Gloxinia crassifolia take a leading part in the summer display. Their large and showy flowers include a wide range of shades in color, while the massive and velvety leaves frequently attain a length of ten or twelve inches in well-grown specimens. The erect-flowering varieties are naturally among the most showy, but those with drooping bells have also a peculiar charm. It is difficult to make a selection, but a satisfactory assortment will be found among a few dozen tubers secured from any large bulb dealer. If the cultivator prefers to enjoy the entire process of growing these plants, a small quantity of seed of some good strain should be secured and sown in pans or boxes of light, fine soil and placed in a warm and shaded portion of the greenhouse. The seeds are very minute and should therefore be sown on the surface of the soil in the same manner as Fern-spores.

The small delicate seedlings require care in watering, and should be pricked out into small pots as soon as they are large enough to handle, and afterward shifted on into larger pots as the growth requires it. Some of these seedlings may flower during the first year, but the majority will make nice little tubers for the next season's work. Special varieties should be increased by means of leaf-cuttings in the same manner as that practiced with Rex Begonias, and these also become available stock for the following season.

Among the Gesneras there are also a large number of good garden varieties that are pretty both in flowers and foliage. The flowers are usually produced in a large terminal spike, and

Fig. 40.—Ostrowskia magnifica.—See page 274.

frequently in very bright colors. These plants flourish under similar conditions to those required for Gloxinias, and are also like them easily disfigured in their foliage by water. It is a safe rule not to syringe these plants at any time.

The Achimenes are also good summer-blooming plants for the conservatory. They deserve much wider popularity, for, while extraordinary specimens may require extra care in cultivation, good average plants of useful size may be obtained with but little care. They may be grown in succession by starting a few of the tubercles at a time, and their period of usefulness is thus prolonged. It should be remembered that the Achimenes grow better by placing them in their blooming-

pots at once instead of repotting them during the time of active growth, the roots being quite tender and easily injured by repotting. A very good effect may be secured by planting some of these plants in wire baskets in such a way that the entire basket is ultimately covered by the growth, such specimens becoming extremely showy when in full flower.

The new hybrid Streptocarpi also form pretty little plants when well grown. These are quite free-blooming, and include some delicate shades of color, though many of the seedlings, from presumably good European strains, produce flowers in which the reddish violet shades predominate. But by discarding those of objectionable color and collecting seeds only from the best and purest colors, the strain may be much improved. A light rich soil and partial shade are among the requirements for the successful cultivation of Streptocarpus. In potting them, in common with most other members of the Gesneraceæ, it is best not to press the soil too firmly in the pots, and the drainage must be kept in good condition.

Holmesburg, Pa. *W. H. Taplin.*

Spring Bulbs in 1893.—I.

THE season of spring bulbs may be considered as over when the late Tulips fade and the Spanish Irises begin to show color. This year the weather has not been such as to cause them to appear at their best, in this part of the country at least, for the season was very late, and this delayed the opening of the earlier kinds, and then came several very hot days, which not only brought out early and late together, but caused them to fade much more quickly than they usually do. Nevertheless, there is so much beauty in these flowers that even such untoward weather as we had this spring cannot entirely destroy the pleasure which we expect from our gardens; the show was very brilliant, if not of long duration.

The first to open with me this year was Erythronium albidum, which came even before the Snowdrops, which generally lead the van. By the side of the latter, when they first appear, springs up Calochortus splendens, the hardiest of the genus with me and the first to start; it is not yet in bloom, however, and hardly belongs in the present paper.

The Fritillarias are all very pretty, though many of them are by no means showy. F. imperialis is well known, and so are F. Meleagris and its lovely white variety, but all lovers of bulbs should grow F. pallidiflora, which, when established, is a very stately plant, growing two feet high, with large glaucous leaves, and producing often as many as ten large pale yellow flowers as large as small tulips, springing from the axils of the leaves. F. tulipæfolia is also very fine; its flowers are about the size of those of F. Meleagris, and are deep purple inside and ashy outside. Chionodoxa gigantea is much more showy than C. Luciliæ; its color is softer and its flowers much larger.

The species of Tulips are for the most part early-flowering. They are as showy as the Dutch varieties and more interesting. T. Greigi, in its varieties, is one of the first to open, and is certainly a magnificent flora. It has not a very wide range of color; orange and yellow, with black blotches, are its only hues, but these are so brilliant that "he who beholds it comes and comes again." This species does not flourish everywhere, but I am one of the fortunate ones for whom it does its best. T. apula is one of the strongest growers of the genus, and is very showy in bloom. Its bulbs are so large and round and heavy that they could be picked out from among others in the dark. A very singular fact is noted every year; soon after the flower expands a fungus attacks it about half-way up the stalk and the flower drops over. The brightness of the blossom is so great, however, that it is well worth cultivating. T. sylvestris, with its graceful, yellow, violet-scented flowers, is admired by every one who sees it. This kind is more inclined than most to produce "droppers," as they are called; that is, the bulb is not to be found where it was planted when the plant dies down; it has decayed, and from its remains a root as large as a goose-quill runs down a few inches, bearing another bulb at its end. The plant has several synonyms. T. carinata is a kind which we do not so much admire at first; we dislike the green keel which runs from base to tip of the segments of the flower, but a few days later, as we walk along the rows and find it still bright and fresh when most of the others have withered, we modify our former verdict.

Tulipa vitellina is a new kind of great beauty, though its color is not at all what the name denotes, but a very light yellow, almost cream color. The flower-stalk is about twenty inches high, and the flowers, as far as I can judge from one year's experience, extraordinarily lasting, for they retained their beauty fully two weeks in spite of the trying weather. T. Orphanidea is a very pleasingspecies of color between orange and buff. T. cornuta, with its long slender petals, is interesting and quaint, but the king of the Tulips is unquestionably T. Gesneriana, with its immense crimson blue-based cups. T. macrospila and T. fulgens are kinds which no one should be without. Yet, in spite of the beauty and interest of the forty or fifty species which are obtainable, I doubt that any way of laying out a dollar will give more pleasure than the purchase of a hundred mixed late single Tulips of the classes known as by-blooms and bizarres. To walk up and down before a row of these, comparing one with another, admiring the almost infinite diversity of markings, is a pleasure equaled only by the inspection of seedling Gladioli of your own raising. In looking this over I find that Tulips have taken up most of the space; the great variety of other genera must wait until another occasion.

Canton, Mass. *W. E. Endicott.*

Hardy Flower Garden.

POPPIES, Pæonies, Spiræas and a host of other less showy plants are now flowering profusely, and the garden is at its best. The season has been most favorable for the growth of plants, and their vigor this year is in many instances astonishing, some plants having increased so much as to make division necessary another season. Vincetoxicum acuminatum, an Asclepiad commonly called the Mosquito-catcher, is now very attractive. Its myriad of starry white flowers secrete a viscid substance that attracts mosquitoes, and these insects are oftentimes trapped by the flowers. It is a good garden-plant, lasting in bloom many weeks, and can easily be increased by division. Cuttings can be rooted, but they seldom make buds below the soil, and usually perish in winter. Pyrethrums, which deserve more general cultivation, are most useful for cutting, and last well. We find the double-named kinds less vigorous than the seedlings raised from seed of double kinds; these in their second season give a quantity of useful flowers that cannot be overpraised. The plants die out somewhat in winter, our annual loss being about ten per cent. But self-sown seedlings are always plentiful in the borders to make good these losses. Pyrethrums with us thrive equally well in wet and dry soil.

Scabiosa Caucasica, one of the choicest border-plants we have, is coming into flower. Like the Pyrethrums, it has a tendency to die out in winter. It is not of a biennial nature, as I supposed, as our plants are now flowering for the third season. There has been a plentiful supply of seed every year to make good all losses, and we always have a nice bed of it in reserve to cut from. The color is a pleasing lavender-blue, rare in the flowers of hardy plants.

Of many varieties, our earliest Campanula to flower is C. punctata. This is more beautiful than ever this season, and its spreading habit produces a dense mat of green, from which spring many stems covered with white flowers, spotted with brown inside. It is a choice border-plant, growing about eighteen inches high, much like C. Van Houttei, and there is no trace of weediness, as in some of the taller and more robust kinds of Campanula. I have raised seedlings of C. nobilis, said to be a synonym of C. punctata, but the former is stronger-growing, spreads rapidly, and is inclined to be weedy. From a garden standpoint these are very different plants.

During a recent visit to Mr. H. H. Hunnewell's gardens at Wellesley, I was surprised to find a fine specimen of Eremurus robustus in bloom. The spike was about six feet high and had been beautiful for a long time, and I was assured that no protection had been afforded in winter. This opens up a new field for hardy-plant lovers, as the plant in question had been but two years planted. There are several other species of Eremurus, all beautiful and stately plants, natives of Asia. These will be a welcome addition to our gardens should they prove as hardy as E. robustus. I have found these plants to be very impatient of root-disturbance, and when once planted they should not be disturbed in any way.

Thalictrums are not very ornamental flowering plants, but have finely cut foliage in all cases. This is especially true of T. minus adiantifolium, which is as pretty in leaf as the common Maidenhair Fern. T. Fendleri, a species from Colorado, is just now highly ornamental, more so than any other species with which I am acquainted, though there is a Japanese plant that resembles it somewhat. T. Fendleri does not grow more than two feet high and thrives in almost any position.

The Columbines are mostly past, and I am sorry to say that many of the best species have disappeared entirely, and in their places we have a nondescript lot of self-sown plants that defy classification. Aquilegia cœrulea, A. glandulosa, A. Stuartii, and even A. chrysantha can scarcely be called perennial, at least they are not always so with us.

South Lancaster, Mass. *E. O. Orpet.*

Vegetable Notes.

IN the lath-covered summer greenhouse, lately mentioned, our late Tomato-plants are now (June 21st) just peeping above ground. This crop of tomatoes will begin to ripen here late in September, or if the weather is dry as last fall, not until October. Our object is to have the plants covered with the finest of well-grown green fruit at the coming of frost. This fruit will be better adapted to ripening in the house than would the late remnants on old exhausted plants. An experiment made last fall satisfied me that here at least we can have tomatoes easily up to the middle of January with little trouble. As soon as frost cuts the vines we propose to gather all the green fruit, wrap each in thick brown paper and pack in crates, just as the green fruit is wrapped when shipped from Bermuda. These crates will be placed in a cool dark place, and our experience leads us to believe that all will ripen perfectly. Some of them, instead of being wrapped, will be placed between layers of raw cotton or cotton-seed hulls. The object will be to delay their coloring until about Christmas, and then to ship some of them to the northern market to see if the practice cannot be made to pay as a commercial matter. The few we kept last winter were in better condition at Christmas than Bermuda tomatoes usually are, and I have no doubt the crop can be made to pay in the south, where the gathering of the green fruit can often be delayed until the middle or last of November. It has long been a practice with market-gardeners everywhere to gather all the fruit left on the vines and spread them under sashes in cold frames to ripen, but we know of little effort to delay their ripening until a later period. The ripening, when stored in a cool dark place, is slow, but better than in frames, where many get shriveled from sun-heat.

Another practice which we believe will prove of good value in the south, if properly undertaken, is the preservation of sweet-potatoes by drying. Last summer I advised the evaporation of sweet-potatoes and their reduction to flour. If put on the market in packages, with recipes for making the many delicious preparations which our people here know so well how to make, the product would prove salable. A lady in Sampson County, in this state, tried this plan on a small scale and sent me a package. While the article—which was simply dried in a stove—was not so pleasing to the eye as it would have been if made in a good evaporator, the dainties made from it were excellent. Made upon a large scale and put up in neatly lithographed packages and properly advertised, I have no doubt that sweet-potato flour would soon be as popular as corn-starch. The raw material can be furnished in any quantity and at very low figures. Sweet-potatoes in the south at twenty-five cents per bushel will pay better than cotton; and the evaporating on a large scale would make the culture available at points where the crop under other conditions could not be marketed at all. Then, too, the yams, which are so much richer in sugar than the dry potatoes grown northward, would make in this way a superior product.

Raleigh, N. C. *W. F. Massey.*

Correspondence.

Flower Gardens for Children.

To the Editor of Garden and Forest:

Sir,—The German cities built from the eighth to the tenth century were all inclosed with a high stone wall for defense in those warlike times. The houses facing narrow streets fronted together in irregular shapes and squares. They were built in this way to encompass an area of ground which was divided into suitable parts, according to the size of the houses, and formed the garden, which occupies so large a place in German family life. Here relatives and visitors are received and entertained, and the children learn by constant observation, without any special lesson, the habits of plants.

The garden of our nearest neighbor, Dr. Steffenhagen, was divided from ours by a Privet-hedge, which allowed my constant observation of his Carnation-beds. This flower was his special hobby and study. Every spare moment not taken up in his arduous school-work in the Latin high school in Parchim, Mecklenburg, he spent over his favorites. We shared his joy over each finely developed flower and mourned with him when a long-awaited promising bud, larger than the rest, turned out to be a "Platzer"—a flower with a split calyx. One spring, by advice of the doctor, my mother designated a bed in our garden for my sole use. True, it was one of the least productive, being close around the stem of a large Pear-tree. But willing hands and continued care made it one of the brightest spots for years during my school-life. Seeds and plants of quick-blooming annuals were provided by our kind neighbor. Adonis, Anagallis, Clarkia, Morning-glories and Nasturtiums, Bellis perennis, Snowdrops, Crocus, Primulas and Auriculas were transferred from my mother's beds. Forget-me-nots and the purple-spiked Cuckoo Flower were brought from the meadow, and Lilies-of-the-valley from the woods. It was an interesting combination of native and cultivated plants, although the wild flowers generally died out for the want of their moist woodland soil. The long and slender shoots of the Ligustrum hedge furnished plenty of material for graceful loops around the border of the bed.

This little spot of ground gave me the first practical garden-lessons, and besides the pleasure afforded me then has repaid me many times over in the enjoyment of this kind of work ever since. The famed gardens on the terraced banks of the River Po could not have given me the pleasure and genuine delight which I received from that first little flower-bed of my own. I often wonder that parents here in America do not give a space of ground in the city yard or country garden into the care of their children. Such a plat furnishes healthful outdoor exercise and helps to form habits of careful observation and industry. Besides this, it affords the best kind of botanical and horticultural knowledge and prepares for a real appreciation of natural beauty.

Hartford, Conn. *Wilhelmine Seliger.*

Exhibitions.

The Boston Rose Show.

THE annual Rose and Strawberry Show of the Massachusetts Horticultural Society was held in its halls in Boston last week. The Roses, although certainly better than those which appeared a year ago in Boston, were inferior in quality to those which Parkman, Gray and other Massachusetts Rose-growers used to exhibit ten or fifteen years ago, and Rose-growing in Massachusetts, if it is to be judged by these exhibitions, is deteriorating rather than advancing.

The largest exhibitor of Roses was the Honorable Joseph S. Fay, of Woods Holl, who carried off the principal prizes this year, as he did last, securing the special prize for twenty-four distinct kinds, three of each variety, and for sixteen distinct named varieties, three of each variety, as well as the first prize in the section for twelve varieties. Mr. Fay took also the first, second and third prizes for the best flowers of three varieties, and for twenty-four distinct named varieties, one flower of each. For the special prizes offered by the society, Mr. Nathaniel T. Kidder, its President, took the first prize for six blooms of John Hopper, as he did for Marquise de Castellane and Madame Gabriel Luizet. For twelve blooms of any other variety, Mr. Fay was again first with General Jacqueminot, Mr. Kidder being second with Magna Charta.

Other large exhibitors of Roses were Dr. C. G. Weld and John L. Gardner, of Brookline, both securing numerous prizes. Mr. Fay's Roses were of fair size, although not exceptionally large, well-colored, with good foliage, but, as a rule, lacked substance. Among the dark-colored kinds Prosper Langier was particularly noticeable, as was Jenny Dickson in the pinks. His most interesting Rose, however, was probably the new white Margaret Dickson, which is particularly beautiful in the bud, and which, if it does as well in other localities as it does at Woods Holl, will be an important addition to the small number of first-rate light-colored hardy perpetuals. In Mr. Gardner's collection Abel Carrière was noticeable for its great substance and perfect form.

Remarkably well-grown and well-flowered Gloxinias were shown by Dr. C. G. Weld, who received the first prize, and by Mr. Charles Francis Adams.

John L. Gardner and C. G. Weld exhibited small collections of well-grown Orchids. Flowers of Cattleya Arnoldiana, from the greenhouse of Hicks Arnold, Esq., of this city, were shown in excellent condition and attracted much attention, as did the new tropical African variegated Dracæna Sanderiana, which was exhibited by its introducers, Sander & Company, of St. Albans, England; this is a plant with three or four stems about eighteen inches high, clothed to the base with narrow, acute, thick and leathery, dark green lustrous leaves banded with light yellow stripes. It is as handsome as a good striped grass and will probably be useful as a house-plant, as its toughness and tenacity of life must be remarkable, this individual plant having in the last six weeks been shown in Ghent, Chicago and Boston.

Mr. Thomas C. Thurlow made a remarkable display of double-flowered herbaceous Pæonies in a hundred named varieties. Such a collection has never been seen before in Boston, and it should do much to arouse interest in this country in

these magnificent hardy plants. It must not be forgotten that the single-flowered varieties are even more beautiful than the double ones.

Mrs. P. D. Richards brought her usual interesting and instructive collection of native plants in flower, including some good examples of Cypripedium spectabile, from New York.

Mr. Jackson Dawson, of the Arnold Arboretum, exhibited a number of his new hybrid Roses of the multiflora race, and also a remarkable hybrid between the Japanese Rosa Wichuriana and General Jacqueminot; this has the prostrate stems and the small dark green foliage of the Japanese species and pink fragrant double flowers.

There was an excellent display of Strawberries, the new Marshall taking the lead of the other varieties and winning the principal prizes. Other successful kinds were Bubach, Leader and Jessie. Winter Brothers showed Black Hamburg and Muscat Alexandria Grapes of extraordinary size, although lacking the finish of the Black Hamburgs staged by Mr. E. S. Converse.

Among vegetables the most interesting exhibit was a large collection of fourteen varieties of wonderfully grown lettuce, exhibited by the Honorable Joseph S. Fay. It is safe to say that this collection surpassed any other ever exhibited in Boston, both in variety and quality. Fine peas, radishes, onions, beets and other vegetables were also shown. On the whole, the exhibition was one of the most varied, interesting and instructive which have been seen in Boston at this season of the year for a long time.

Boston, Mass. *C.*

The Columbian Exposition.

Recent Arrivals of Fresh Fruits.

THE first American fresh fruits to arrive at the Fair were Peen-to peaches from Florida, received early in May. These have long since passed away, and there has been no subsequent attempt to show Florida peaches. In fact, no new Florida fruits are coming in, save a small collection of pineapples from the Indian River region, owing to the lack of any appropriation by the Legislature to defray the expenses of an exhibit. The oranges and cocoanuts placed on exhibition at the opening of the Fair are still attracting much attention, however. The second lot of peaches arrived on June 12th from Kentucky. These were a new variety, the Sneed, sent by W. J. McPheters, of Clinton. This peach originated in Tennessee, and is said to be a seedling of Family Favorite, which is a seedling of Chinese Cling. The Sneed is thought to mark the introduction of a new type of very early peaches, although it has much the appearance of varieties of the Alexander class. The habit of the tree is said to be much like that of the Chinese peaches. The third lot of peaches arrived June 13th from central Arkansas. These were Alexander. Two days later samples of Governor Garland were received from the same state. This peach differs from Alexander only in minor characters, and, like all very early peaches, is white-fleshed and half-clingstone. On June 18th Missouri sent Governor Garland peaches, and on the 20th unnamed peaches were received from Villa Ridge, southern Illinois.

The first new American apples appeared June 15th from central Arkansas. These are the Yellow May, a small light yellow apple with a streaked blush in the sun, valuable only for culinary purposes.

California had cherries on exhibition from Sacramento County May 17th. Royal apricots are now on the tables from Yolo County, whence they began to arrive the middle of June. Loquats, or the so-called Japan plum, were on exhibition six or eight weeks ago, but have now disappeared. California has made no attempt to show the early peaches because of the great distance they would be obliged to travel. A few figs were received June 13th from D. Bonelli, Ryonville, Nevada. These were shipped from Nevada May 28th, and were in poor condition upon arrival, but they came from an unexpected source, and attracted attention.

As early as June 7th cherries and gooseberries were shown from Marion County, southern Illinois. The cherries were Dyehouse and Early Richmond. At the time the first cherries were received from southern Illinois some varieties were still in bloom about Chicago, at the northern end of the same state. The gooseberries which were shown early in June, and which are still represented on the tables, were Houghton, Mountain Seedling, Downing, Champion and Industry. Ripe currants were received June 13th from southern Illinois, and there are now (June 21st) white grape-currants from Centralia, and Fay and Red Dutch currants from Marion County. In gooseberries, currants, raspberries and blackberries Illinois has had the only exhibits. Among red raspberries, Turner and Brandywine are represented, having come in from Centralia June 20th. Black raspberries first appeared June 14th. Souhegan, Winona and Kansas are the varieties so far shown. Early Harvest blackberries were received June 20th from C. H. Webster, Centralia.

The first new grapes on exhibition was a lot received the middle of May from Bruni & Brother, Laredo, Texas. This lot, with subsequent additions, includes some eighty plates of Zinfandel, Sweet Water, Muscat of Alexandria, and Tokay, all of the European type. There is a new white grape in the lot which the exhibitors have named Samuels, in honor of the Chief of the Horticultural Department. It is said to be a hybrid between a Vinifera variety procured in California and some native Texan species. The bunch is large and much compounded or branched, the grapes of medium size and very thickly set upon the cluster, with a skin adherent, as in the true Viniferas. The flavor, in the specimens on exhibition, is not high.

In strawberries, Sacramento County, California, made the first show. Berries which were picked May 11th were on exhibition in both the California and Horticultural buildings May 17th, and a second consignment was received May 23d. These were all Triomphe de Gand. There have been no subsequent displays from California. Illinois was early in the field with strawberries. The first consignments (Gandy and Riehl's No. 6) were received from the southern part of the state May 15th. There are now in cases Princeton Chief (a new variety from F. W. Poscharsky, of Princeton), Bubach and Curtis No. 15. The latter is a very attractive berry of large size and dark uniform color, with a tendency to become coxcombed. New Jersey first had strawberries on exhibition June 7th, from William H. Elvins, Hammonton, comprising Belmont, Sharpless and Bubach. The display has been continued and augmented since that time, the berries being shipped in refrigerator cases and kept under refrigeration at the Fair. The New Jersey show is easily ahead of any other. The varieties which are now attracting much attention from their great size are Great American, Sharpless, Parker Earle, Gandy, and Champions of unusual coxcombed shape. New York began receiving strawberries from the lower Hudson River valley June 13th. The first variety shown was Bubach. On June 21st, the sixth consignment of the season was unpacked. Two installments have been received from the Experiment Station at Geneva, comprising several comparatively new sorts. The long shipment from New York tests the carrying qualities of strawberries. Among the best shippers are Sharpless, Middlefield, Gandy, Chair's Favorite and Beverly. These New York berries are shipped in egg-cases, each berry occupying a compartment with cotton-packing. In these cases, even Cumberland and other soft berries arrive in good condition. When the berries are packed in ordinary cotton-batting, however, the fibre adheres to the fruit and makes it look mouldy. But if squares of cotton-wadding, which has a firm or glazed surface, is used, the berries arrive in clean and excellent condition. The chief New York berries now on the shelves are Bubach, Sharpless, Downing, Jessie, Cumberland, Gandy, Middlefield and Parker Earle. The New York exhibit also shows fifty-one varieties of Strawberries growing and bearing in eight-inch pots. A single unnamed variety of Strawberry from Idaho was placed on exhibition June 16th. On June 17th, a lot of Clark's Early, a new variety, was received by the Oregon people in good condition, after having traveled 2,500 miles without refrigeration. Six days after its arrival this berry is still firm. It is medium in size, exceedingly solid and tough, reminding one somewhat of the Glendale. The color of both exterior and flesh is very dark dull red. The berry is not high in quality, but it certainly gives every promise of being a good shipper. On June 21st the first strawberries arrived from Michigan, Minnesota and Ontario. Michigan had Jessie and Warfield from Benton Harbor, Minnesota had Crescent, and Ontario showed nineteen varieties, mostly in poor condition, although Jessie, Beder Wood, Daisy and Farnsworth stood the journey well.

Chicago, Ill. *L. H. Bailey.*

Notes.

During the past season the Vermont maple-sugar laboratory weighed for inspection 4,759,762 pounds of maple-sugar, and the bounty received for it will be about $70,000.

The Fraxinellas are now in bloom, both the type and the white variety. Large plants of the latter are very attractive now with the tall spikes of flowers above the leaves. Both

kinds are easily grown, and, once established, they will live for years with no extra care. They are plants which should have a more prominent place in the hardy-flower garden.

Tomatoes are dried for market in Italy. The ripe fruit is pressed, the skins and seeds strained out, the juicy pulp is spread out to dry and afterward broken and ground for packing.

It is hard to have too many plants of the Yellow Day Lily, Hemerocallis flava. The lemon-yellow, sweet-scented flowers are borne on stems two and a half feet high, and they are not only beautiful in the garden, but are admirable when cut for filling large vases, where the buds will continue to open in succession for several days.

A new Snowdrop, Galanthus gracilis, which flowers in Bulgaria in March, is mentioned by Mr. J. G. Baker, in a late number of the *Gardeners' Chronicle*. It is nearly allied to G. Elwesii, being similar in stature and having a large blotch at the base of the inner segments of the perianth. The apical lobes are oblong and not crisp at the edges. The plant seems to be widely distributed throughout Bulgaria.

The Mountain Maple (Acer spicatum) is not often cultivated, and yet it is very useful where dense masses of shrubbery are needed. A fortnight ago they were in full bloom, and very effective among other shrubs along the drives in the Arnold Arboretum. They make small trees or tall shrubs eight or ten feet high, with brown twigs, good foliage and greenish yellow flowers in erect slender racemes.

The pure white Ascension Lily (Lilium candidum) seems to have escaped the disease which a few years ago threatened to make its cultivation impossible here. Plants about New York are flowering abundantly. Few objects in a hardy-flower garden are more beautiful than a mass of these flowers with a dark green background or interspersed with tall spikes of the pure blue Delphinium formosum, which is now at its best.

We have received from Mr. Joseph Meehan a branch of Cistus laurifolius, and although the flowers last only for a day, the form and character of the clear white blossoms were still distinctly shown in this specimen. The leaves are somewhat viscid or gummy, and have a pleasant aromatic odor. This is a very old plant in European gardens, but it is considered tender here, and it is, therefore, worth noting that the shrub from which this branch was taken has stood out in the Meehan nurseries at Germantown for four years, and has never been injured in the least. This beautiful evergreen, therefore, ought to be classed among the shrubs which are probably hardy in the latitude of Philadelphia. The flowers are produced freely in succession for several days.

The Secretary of War has appointed a commission, consisting of Colonel John P. Nicholson, of Philadelphia, editor of the American edition of the *History of the Civil War in America*, by the Comte de Paris; Mr. John B. Batchelder, of Massachusetts, and General Forney, of the Confederate army, to mark the Confederate lines at Gettysburg. The Union lines have been thoroughly designated at the expense of $863,017, the state of Pennsylvania having contributed a little over the half of the amount, or $441,000. When the Comte de Paris visited the field for the first time two years ago he declared that Europe had no such impressive spectacle as an attraction for tourists. It is not improbable that the position of the camps of the different state troops at Valley Forge may eventually be marked somewhat on the plan pursued at Gettysburg.

A correspondent of *The Country Gentleman* says that hundreds of acres of Watermelons are grown in south-western Georgia for the seed alone. These Melons are grown from seed furnished by northern seedsmen, who take the entire product of the land planted at a contract price, which varies from twelve and a half up to twenty-five cents a pound for a few varieties. Light sandy land is selected, and the seed is planted six feet apart, with a handful of compost in each hill. When the melons are thoroughly ripe, barrels are taken into the field and the melons hauled to them in wagons. They are then split open and all the seeds and some pulp are taken out by hand and emptied into a barrel, where the mass is left to ferment until the seeds sink to the bottom. After fermentation the water is poured off, the seeds washed and dried. The average yield is about 150 pounds to the acre, which gives a gross return of only $18.75. The land, however, is too poor for anything else, and the after crop of Crab Grass hay is worth nearly as much as the seed.

Deutzia parviflora, which has just gone out of bloom, differs very much in the appearance of its flowers from any of the other varieties in cultivation. These flowers are not of a snowy whiteness, like those of D. gracilis, but are creamy white, prettily arranged in large corymbs, and vary from over one-third to one-half an inch across. They resemble in general appearance small Hawthorn-blossoms, and have something like the Hawthorn's fragrance. D. parviflora is a stout shrub with upright stems four or five feet high, and the flowers in early June quite cover the upper portions of the stems. It seems to us the most beautiful of the three or four species now cultivated, and it is altogether one of the hardiest and most desirable of the shrubs which have come to us in recent years from Asia. It is a native of northern China and the Amoor country, and it was sent a few years ago from the St. Petersburg Garden to the Arnold Arboretum, from which place it has found its way into many of the large collections of the country, although it is not as widely known as it should be. The reproduction of a photograph of a flowering branch of this shrub was published in the first volume of GARDEN AND FOREST.

Latest advices from Greece show that the downy mildew has attacked the Currant-plants in Patras, Zante and some of the other coast districts, and there is reason to fear that much damage will be done, although Currant-growers in the east have learned to use the copper compounds for spraying against mildew. It is probable that in a few years currants from California will be as common in our markets as other fruits are now, since the experiments in cultivating this berry there have proved most encouraging. Fruit dealers are looking forward confidently to the time when European currants will be subject to competition with the California product, just as European prunes and raisins now are. The prune crop of Bosnia and Servia is likely to be up to the average, and the crop of French prunes will be abundant and good. Encouraging reports come from Spain as to the crop of Valencia raisins, and a careful review of the situation in the *Journal of Commerce* concludes that there is likely to be an abundance of fruit from all sections of the world, with low prices. Good mangoes are now arriving from the West Indies and bring one dollar a dozen. The fancy fruit stores are offering an orange called the Columbus, from Rodi, Italy, which is superior to any other Mediterranean fruit. It is the best of summer oranges and ranks with first-class Florida fruit in winter. These sell at sixty cents a dozen. Small striped summer apples from Georgia are fifty cents a dozen. Huckleberries are coming in from Maryland, blackberries from Delaware, and raspberries from New Jersey.

In reply to an inquiry whether farmers should be advised to go into Pear-culture, Messrs. Ellwanger & Barry reply in the *Rural New Yorker* that in a long experience they do not remember a single case where fruit-growing, when conducted properly, has resulted in failure. The failures which have occurred can always be traced to some error in care or cultivation. An indispensable requisite to Pear-culture is a well-drained soil and trees set well apart. Dwarf trees should be separated by at least fifteen feet and standards by twenty-five feet. Pruning and thinning should be carefully practiced and no low grade of fruit offered for sale unless it is so marked. The finest fruit should always be carefully sorted and the package marked so that they will be recognized at once as the highest grade. In this way growers can obtain a reputation for first-class products. The most profitable Pear is the Anjou. Clairgeau also commands a high price by its handsome appearance, although it is of medium quality. Winter Nelis is profitable for midwinter, because it bears heavily and ripens about February 1st. Mr. T. T. Lyon, of Michigan, in replying to the same question, holds that it is hardly safe for any one to embark in Pear-culture, except experimentally, until he knows well the soil and climate of the contemplated locality, and has become thoroughly familiar with approved systems of management. To a man thus equipped the venture may be commended as eminently promising. Dr. Hoskins thinks a man who knows how, and who will do as well as he knows, and is not too far from a good market, can make Pear-growing pay as well as growing any other fruit. He would not advise any one engaged in farming or dairying or stock-raising to abandon these occupations for Pear-growing, since one business is enough for one man.

Mr. A. C. Hammond, who has been Secretary of the Illinois Horticultural Society for several years, died at his home at Warsaw, in that state, on the 20th of June. He was widely known and much esteemed among horticulturists, and his loss will be deeply felt.